SENIOR EXECUTIVE SEALIFT CONFERENCE

I want to answer the question "What should the government do to stimulate the development of **innovative commercial ships** and cargo handling systems that have the capability of **meeting Defense needs as well as facilitating domestic and international commerce"**

Background
-DoD requirements
--Earlier arrival of ground forces into an operational theater
--Higher speed inter-theater ships for rapid force closure
--Higher speed inter-theater ships for sustainment and reduced inventory
--Higher speed intra-theater ships for more rapid force closure from Advanced Bases

-Commercially - Increase in Freight Flows in US
--Mega Ships 8,000 containers = (2000 trucks stretching 20 miles + 6 to 8 double stack trains/day from LA/LB)
--Container/tractor trailer shipments are anticipated to double over the next decade

--Between 1980 and 2000 VMT grew by 80% but lane miles only grew by 2%

--Highway congestion—number of trucks predicted to triple by 2040—to 21 million. The consequences are grim. 36% of America's major urban roads are currently congested. Our interstate highway system will be the Achilles heel of e-commerce, stifling just-in-time distribution with congestion caused by too many trucks and cars in too few highway lanes. This congestion will frustrate the public trying to travel these roads in nearly 300 million private vehicles. Some think the number one issue impacting economic growth is congestion!

-Must look for alternatives--High speed freight corridors (Highways with truck lanes or designated primarily for trucks, Railroads require double tracking of major freight routes to increase volume, and Water—Marine highways along our coasts and in the gulf to relieve pressure on our highways.)

History—Shows we have had two distinct revolutions in Transportation since the 1800's.

-First Transportation Revolution--completion of the transcontinental railroad because President Lincoln

adopted the vision of economic growth held by entrepreneurs seeking to complete a transcontinental railroad. He championed the federal **government's land grants and bond guarantees** that reduced the excessive risks enough to attract private capital for the completion in 1869

-Second Transportation Revolution--The launching in 1956 and subsequent completion of the Highways for National Defense by President Dwight Eisenhower. It created the Interstate Highway System--45,000 miles that along with another 15,000 miles of divided highways make up the National Highway System. It is **public financed** by the Government Highway Trust Fund (18.5 cents/gal tax on gas) and State/local funds (gasoline taxes primarily). This National Highway System carriers 80% of the freight moving by truck across this nation.

-Today the Federal Government has a fragmented approach to improving our national transportation system. There is not a cohesive national policy encompassing all the modes. Rather there is a segmented modal approach. The government supports individual projects. To just focus on highways as an example

--The greatest obstacle most large transportation projects must overcome is the costs. Examples of the costs for Highway Projects (Wilson Bridge-$1.2B project with 80%+ of the funding from the Transportation Trust Fund and individual congressional appropriations, Alameda Corridor-$2.4B project to expand/enhance a 20 mile stretch of rail corridor from LA to an inland rail terminal—government provided a $400 million loan that the project leveraged into an additional $2B in other funding, I-81 widening in VA is a 15 year $6.4B **proposal** to create more lane miles to handle trucks, the "Big Dig in Boston- a $14B program to build an Interstate under the city, and I just read where the DoT Loaned the state of Texas $66 million to jumpstart a toll road project aimed at easing highway congestion near Austin. There are similar examples for Air Ports under the Airport Improvement Program. The **point** of these examples **being the Federal Government** is involved in supporting Transportation projects of Regional and National significance. And virtually all of the funds for these projects are public funds (Federal, State, local, or city)

-I believe it is time for a 3rd transportation revolution, **supported by the federal government,**

as were the first two, to develop new freight corridors in the USA. **Look at the Water!** Sea-borne **services, including high-speed sealift, would provide the quickest and least costly way to add new freight capacity** by linking selected city pairs by water. Indeed, innovative commercial services are being developed to create new high-speed freight corridors along the coasts. These services use high-speed vessels that could have military utility.

REQUIREMENT: A public/private **partnership** arrangement where **private industry provides the technology and capital** for construction of commercial high speed vessels **in return for innovative government financing arrangements/guarantees (leverage the government's credit worthiness**) and government gains access to the technology for military applications and to these commercial vessels during a crisis or national emergency

State of the Practice Today

-Alaskan Marine Highway System-Alaskan State Ferry System—partially funded and supported from the Highway Trust Fund. The same is true for the Washington State Ferry system and New Jersey Ferry system.

-Fast Ferries—Stenna in Europe and INCAT (Australia). DoD has leased some of these vessels for experimentation. Recognizing the vessels were not designed or constructed for Military use, and they certainly have weaknesses, but the results have been positive.

-Navy is in the process of launching an experimental vessel that may be the precursor to the littoral combat ship. Picture on the cover of the March 2005 Pacific Maritime magazine.

-Technology—The Services are in the process of great change—a transformation—experimenting with new concepts and technology. Challenges in the transportation and logistics area consist of (1) achieving the capability to put a force in confrontation with an adversary anywhere in the world in a matter of days. (2) The capability of carrying out our operations through "austere" ports (3) our withdrawal from foreign bases and the consequent launching of our operations from CONUS. A tremendous amount of work has been done over the last several years in an effort to solve or reduce these challenges by increasing the speed of ships. The constraints seem to revolve around two areas: (1) solving the problem of lost power due to

friction drag and (2) the need for more propulsion to overcome that friction means more space is needed for the power plant. From the work done to date and the smaller vessels produced for ferry services, the outlines of a ship designed to serve the military for cargo/equipment movement are beginning to come into focus.

-Hull-form = multi-hull like a catamaran, trimaran or even a pentamaran

-Size = probably bounded by port access (rather than by load requirements) at a length of less than 140 meters and an arrival draft of about 6.5 meters

-Speed = Probably a maximum of about 45 knots

-Unrefueled range = around 5,000 miles

The capability to design and the technology to build high-speed vessel of a "given" class as just described is available. This has to a degree been demonstrated in the fast ferries, and perhaps the recent "X" class experimental navy vessel and other applications. **It is time for the United States to build these vessels**, learn and then improve/insert new technology for subsequent vessels.

-US Shipyards—If it is agreed that some of these vessels need to be built, they must be built in the U.S. Then those conducting the work should establish links with the commercial shipping industry. And

attention should be paid to the circumstances of the U.S. shipbuilding industry whose commercial sector is very week. I believe the US yards can gain the knowledge and skills necessary for constructing High Speed Commercial or Military vessels. They may need to upgrade their infrastructure and develop the capacity to build High Speed Vessels. The US is the world leader in technology development and application of this technology. We need to become a leader in High Speed Vessel technology and construction. **This requires being bold, creative, and imaginative—Multiple yards involved using modular construction, virtual shipyards building collaboratively designed ships, (The Boeing 777 example)**

Some mention is merited on the possibility of finding a commercial market. It is believed that there is a potential for doing so, in the trans-Atlantic trade, but not the trans-Pacific. Customers willing to pay a premium for fast delivery have to be weaned from air transport which has, among its other advantages, the capability of delivering cargo to airports distributed across the interior of the destination land mass, whereas ships can only appear at the periphery. Further more the time spent by an airplane in transit is small compared to that of a ship. It is believed that these considerations boil down to requiring that to be

competitive at even the low end of the airlift market, ships cannot spend more than about five/six days in trans-oceanic transit. For the Atlantic that means a speed of fewer than fifty knots and, for the pacific, it would require about 100 knots. The former may be within reach, but not the latter. There's yet another consideration: the volume of the cargo for which a speed-premium makes sense is estimated to be no more that a few thousand tons per day in each direction in the Atlantic and, to ensure meeting the elapsed time goal, at least one sailing per day is needed; That "few thousand tons" is within reach of where the military requirement seems to be headed.

There is another potential use for commercial high-speed vessels. That is in coastal shipping as an option to highway. The DoT has been using the phrase Short Sea Shipping to identify this coastal movement of freight by sea. Think of the vessel as a bridge connecting port pairs like the GSA airline city pairs program today. Truckers may find it cheaper and faster to travel partly by sea instead of totally by road and thus bypass many high density/congested areas. Instead of intermodal by rail across the U.S. it is intermodal by water along the coast. Where are we with short sea shipping Today?

Short Sea Shipping Today

-Tote—Pacific Northwest to Alaska—move trailers and other vehicles/equipment using twice weekly service to/from Alaska by ship. Tote + Horizon + some trucks traveling the Trans-Alaskan Highway keep stores/businesses in Alaska stocked with goods and move Alaskan made products to the lower 48 states. Tote has demonstrated that you can reliability and dependably move trailers and other "rolling stock" by sea even in rough weather.

-Osprey—Gulf coast barge service—Niche market

-Studies and analysis show there is a market for High Speed Short Sea Shipping along the East Coast of the US, potentially across the Gulf of Mexico, and eventually along the West Coast—A dedicated service connecting 8 pairs of primarily East Coast cities can take almost 700,000 trucks a year off the East Coast North/South interstate highways (I-95 and I-81). **The missing ingredient today is speed** in order to make this service efficient and beneficial to the shipper/trucking company.

Way Ahead

-To be successful in achieving high-speed sealift for short sea shipping and to create assets to be available

to the DoD in times of national emergency, I believe we need to change our way of thinking. We need to "think outside the box" and be creative. We need to look at this as a long-term investment in America's infrastructure and in job creation, not as an investment in capital assets. This is a project of Regional and National significance. It benefits multiple states, unlike the I-81 proposal in VA, and provides economic benefits to the entire Nation. The federal government's accounting practices, unlike that of American business, makes no distinction between outlays for consumption and outlays for investments like transportation infrastructure. Infrastructure investment is a crucial component of a productive and competitive economy because it underpins most private economic activities. Infrastructure is a powerful generator of employment and economic growth. Research shows that for every dollar invested in federal transportation infrastructure, an estimated $5.70 in economic activity is generated. Current data shows that for every $1 billion invested in highways and transit infrastructure 47,500 jobs are suppoeted and it supports almost $2 billion in family earnings, and generates $540 million in federal income and social security tax receipts. **Will investing in high-speed sealift as an infrastructure project do the same?** I do not know, but intuitively we know it will create

hundreds of jobs in the shipyards, it will create jobs for mariners, it will create jobs for port operators and longshoremen, it will create jobs for those who operate and maintain all the supporting equipment, and it will support billions in family earnings. Just as investment in Highways for National Defense contributed to National Security (Today's Interstate Highway System) in the 1950's and spurred economic growth in the 1960's and 1970's, investing in high-speed sealift today will create jobs, generate economic growth, and contribute to our national defense in the 2010's and 2020's.

-Public/Private Partnership (Entrepreneurs sit down with government (DoD and DoT) and develop the business case and strategy for achieving a commercial high speed short sea shipping capability suitable for military use. To get the entrepreneurs to the table **government must commit to supporting the initiative.**

-Financing (innovative--not subsidies, but like Lincoln and Eisenhower demonstrate the government fully supports the program by committing the full faith and credit worthiness of the government to the project through creative programs.)

-The government should reduce the excessive risks by providing 100% loan guarantees—While it is a simplistic example—the same principle as a VA loan guarantee for a home. Look what this program did for home ownership after World War II and it continues today.

-Tax credits (eliminate the Harbor Maintenance Tax and other tax impediments necessary for the establishment of a viable, profitable high speed coastal shipping program)

-Provide for government loans (Alameda Corridor received a $400 million government loan that they leveraged to arrange additional financing for the $2.4 Billion project. Take the steps necessary to attract private capital—reduce the excessive risk as Lincoln did for the railroads.

-Leverage existing programs (Highway Trust Fund for Connectors to terminals/ports, supporting infrastructure projects (port facilities), Marine Highway System, Maritime Security Program, Title 11, ONR R&D projects, NDSF, NDF program.) There are many programs, identify the best and then focus and leverage them for high-speed sealift.

-Perhaps it is time for the federal government to do what businesses, states, and local governments do today to raise capital for infrastructure projects—sell bonds. Explore the potential for "Piggybacking" on the "Build America Bonds" concept being proposed for making investments in highway, public transit and rail infrastructure recently introduced in the Senate as S.428. This bill seeks to supplement the Highway Bill as a way to raise capital for infrastructure projects of Regional and National Significance. Coastal shipping is the only surface infrastructure option that needs to be added to make the package complete.

Benefits include:

-Expands the infrastructure

-Generates economic growth

-Creates Jobs

-Contributes to National Defense (Government (DoD) access to vessels during a crisis)

In closing I suggest government executives take the lead, pull a government/industry group together and tell them to figure out how to leverage government financial capability and the power of the commercial industry in order to achieve high speed sealift for our nation's economic growth and for our defense needs.